

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

**NEURO AND CARDIAC
TECHNOLOGIES, LLC,**

Plaintiff,

v.

NEURONETICS, INC.,

Defendant.

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CIVIL ACTION

NO. 19-0167

MEMORANDUM AND ORDER

Presently before the Court is an action for patent infringement brought by Plaintiff, Neuro and Cardiac Technologies, LLC, against Defendant, Neuronetics, Inc, for allegedly infringing upon the US Patent No. 6,366,814 (the ‘814 Patent’). The ‘814 Patent discloses a device that treats medical disorders. At issue before the Court in this *Markman* process is the correct interpretation of the term “primary coil” as used in Claim 1 of the ‘814 Patent.¹

I. BACKGROUND

A. Factual Background

Plaintiff is a Wisconsin limited liability company that is the owner of multiple patents. The patent at issue, the ‘814 Patent, was issued on April 2, 2002. The ‘814 Patent discloses a device for neuromodulation, which is the application of a stimulus to the nerve system. Specifically, the patent discloses a device for neuromodulation to treat neurologic, neuropsychiatric, and urological disorders.

¹ The parties briefed additional terms and phrases in their Claim Construction briefs, however the parties stipulated during the *Markman* hearing that the construction of the term “primary coil” is case dispositive. Accordingly, after adopting Defendant’s construction, the Court will not address the other disputed terms and phrases.

Defendant is a medical device company with its headquarters in Pennsylvania. According to Plaintiff, Defendant intentionally infringed upon Plaintiff's '814 Patent by using, importing, testing, causing to be supplied, selling, and/or offering for sale the NeuroStar Transcranial Magnetic Stimulation System ("NeuroStar"), a system that treats major depressive disorders.

The principal area of dispute is the parties' disagreement over the claims of the '814 Patent. Plaintiff alleges that the terms are straightforward and should be afforded their plain and ordinary meaning. Whereas, Defendant explains these concepts with reference to dictionaries, the '814 Patent itself, and prior art patents.

B. Procedural Background

On Jan 11, 2019, Plaintiff brought suit against Defendant for infringement of the '814 Patent.

Per the Court's Order, the parties submitted Claim Construction briefs articulating their respective positions as to the proper interpretation of claim terms in the '814 Patent.

On November 12, 2019 the parties appeared for a *Markman* hearing before the Court.

II. LEGAL STANDARD

A patent describes the scope and limits of an invention to alert the public of the bounds of the patentee's exclusive rights and all that which remains open to the public. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970 (Fed. Cir. 1995). Claim construction is a question of law. *Id.* at 977–98. Claim construction is the process whereby courts “determin[e] the meaning and scope of the patent claims asserted to be infringed.” *Id.* at 976. When construing the claims of a patent, a court considers the literal language of the claim, the patent specification and the prosecution history. *Id.* at 979. “[T]here is no magic formula or catechism for conducting claim construction.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005). Accordingly, a

court must attach the appropriate significance to appropriate sources “in light of the statutes and policies that inform patent law.” *Id.*

The Court should generally assign claim terms their “ordinary and customary meaning”, which is the meaning a person of ordinary skill in the art would afford the term at the time the patent application was filed. *Id.* at 1312–13. “[T]he ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321. If the claim terms are ambiguous, courts look to the specification and prosecution history to resolve the ambiguity. *Markman*, 52 F.3d at 986. The specification contains a written description of the invention, as well as the process and manner of developing and using the invention, and the prosecution history outlines the patentee’s interactions and representations to the United States Patent and Trademark Office (the “USPTO”). *Id.* at 985–986.

The specification of the patent “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Claims can never be read in isolation, but rather “must be read in view of the specification, of which they are a part. *Markman*, 52 F.3d at 979. Nevertheless, while courts can look to the written descriptions in the specification to define a term already in a claim limitation, courts cannot read a limitation into a claim from the written description. *See Reinshasw PLC v. Marposs Societa’ Per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman*, 52 F.3d at 980. The prosecution history “consists of the complete record of the proceedings before the USPTO and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317 (citing *Autogiro Co. of Am. V. United*

Sates, 384 F.2d 391, 399 (Ct. Cl. 1967)). “[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.* “Although the prosecution history can and should be used to understand the language used in the claims, it too cannot ‘enlarge diminish, or vary’ the limitations in the claims.” *Markman*, 52 F.3d at 980. The Federal Circuit has cautioned against the usefulness of the prosecution history, as it may be less clear than the specification because it is the product of ongoing negotiation between the USPTO and the applicant, not the final negotiation. *Phillips*, 415 F.3d at 1317.

In addition to the specification and prosecution history, courts may consider evidence that is extrinsic to the public record, “including expert and inventor testimony, dictionaries, and learned treatises[,]” which can “shed useful light on the relevant art[.]” *Phillips*, 415 F.3d at 1317. Thus, “[j]udges are free to consult such resources at any time . . . and may also rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.” *Vitronics Corp.*, 90 F.3d at 1584 n.6. Dictionaries, for example, can be helpful to the court in determining the meaning of a term to those of skill in the pertinent art because dictionaries “endeavor to collect the accepted meaning of terms used in various fields of science and technology.” *Phillips*, 415 F.3d at 1318. However, it is imperative that courts understand that extrinsic evidence, which “consists of all evidence external to the patent and prosecution history,” is “less reliable” than intrinsic evidence, and “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Markman*, 52 F.3d at 980; *Id.* at

1318–1319.

III. RELEVANT LANGUAGE OF THE PATENT-IN-SUIT

At issue before the Court in this *Markman* process is the correct interpretation of the term “primary coil” as used in Claim 1. Specifically, Claim 1 of the ‘814 Patent reads:

An external pulse generator for neuromodulation treatment of at least one neurologic, neuropsychiatric, and urological disorders: comprising:

- a) a power source, **primary coil**, and circuitry to provide electrical signals, and
- b) at least two pre-determined programs to control the electrical signals generated by said pulse generator whereby neuromodulation treatment is provided.

Pl. Constr. Br., Ex.1, JA-37, 19:55-62, Doc. 32–1.

IV. CLAIM CONSTRUCTION

The parties have presented competing descriptions of the proper construction of primary coil.

A. Plaintiff’s Argument

Plaintiff argues that the proper interpretation of “primary coil” is an “inductive coil configured to induce a response in a body.” Pl. Constr. Br. 13, Doc. 32. According to Plaintiff, the Court should adopt its construction because it is the “plain and ordinary meaning as understood by a person of ordinary skill in the art in the context of the ‘814 Patent.” Pl. Constr. Br. 13. Plaintiff contends that its construction is consistent with the claims and the specification. Pl. Constr. Br. 13.

In support of its proposed construction, Plaintiff points to language in the specification that “[t]he external stimulator is inductively coupled to the lead-receiver” for its argument that the “[t]he specification is clear the purpose of the primary coil is to deliver an inductive signal from the coil into a patient’s body.” Pl. Constr. Br. 13, JA-33 at 12:47–48. As another example, Plaintiff points to language in the specification describing electrode. *See* Pl. Constr. Br. at 13,

JA-34 at 14:5-10. In addition, Plaintiff argues that the ‘814 Patent’s references to “the primary coil as the transmitting coil, ma[kes] clear that the primary coil is sending an inductive stimulus into the body.” Pl. Constr. Br. 13.

B. Defendant’s Argument

The interpretation that Defendant Neuronetics offers for “primary coil” is “a loop shaped inductor that is adapted to be coupled to an implanted lead receiver.” Def. Constr. Br. 9, Doc. 31. Defendant supports its position “[b]ased on the claim language, the ‘814 Patents inventors’ explanation of their “invention,” and standard dictionaries.” Def. Constr. Br. 9. Defendant argues that the claim language supports its construction because “primary” connotes “that “primary coil” is adopted to be coupled with a ‘receiver’ or ‘secondary coil,’ otherwise primary would be superfluous.” Def. Constr. Br. 9. In addition, Defendant opines that “primary indicates that the coil is a transmitting coil or inductor for generating a magnetic field, as opposed to a receiving coil.” Def. Constr. Br. 9–10. Further, Defendant submits that the patent specification supports its construction “because the ‘814 patent repeatedly characterized this invention as having a primary coil that is adapted to be coupled to an implanted lead receiver.” Def. Constr. Br. 10. Defendant also argues that dictionary definitions of “primary coil” support its construction. Def. Constr. Br. 13. Finally, Defendant contends that the prosecution history supports its construction because the inventors of the ‘814 Patent represented that it was capable of being implanted to a lead receiver in a proceeding before the USPTO. Def. Constr. Br. 14.

C. Analysis

The Court agrees with Defendant that the term “primary coil” means “a loop shaped inductor that is adapted to be coupled to an implanted lead receiver.” The Federal Circuit explains that “the ordinary meaning” of a claim term is its meaning to the ordinary artisan after

reading the entire patent.” *Philips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005). First, looking to the claim language itself, the use of “primary” supports Defendant’s construction of “primary coil” as being “adapted to be coupled to an implanted lead receiver” or “secondary coil” because without the rest of Defendant’s proposed construction, the word “primary” is superfluous.

The specification also supports Defendant’s proposed construction of primary coil. The ‘814 Patent repeatedly characterizes the invention’s primary coil as being “adapted to be coupled to an implanted lead receiver.” Def. Constr. Br., Ex 1, JA-32 at 10:55–58, Doc 31–1. The “Summary of the Invention” states that the “external pulse generator of this invention contains a primary coil and is adapted to be coupled to an implanted lead-receiver for neuromodulation treatment.” Def. Constr. Br., Ex 1, JA-32 at 10:55–58. Further, the invention is described in the Abstract as an “external stimulator adapted to be inductively couples with an implanted lead-receiver.” Def. Constr. Br., Ex 1, JA-1. In addition, the “Field of Invention” characterizes the invention as one that “relates to electrical stimulation therapy . . . with an external stimulator . . . adapted to be used with an implanted lead-receiver.” Def. Constr. Br., Ex 1, JA-28 at 1:16–23. Finally, the ‘814 Patent’s articulated advantages touts the invention as the “presently inductively coupled system” and “external inductively coupled nerve stimulation.” Def. Constr. Br., Ex 1, JA-32 at 10:14–15; JA-32 at 10:32–33. The specification overwhelmingly describes the primary coil in reference to its ability to be “coupled’ with an “implanted lead receiver”. Consequently, the Court agrees with Defendant that such a characterization “mean[s] that there is a primary coil adapted to be inductively coupled to a secondary implanted coil.” Def. Constr. Br. 11.

Although the Court acknowledges that extrinsic evidence is to be given less weight in determining the proper construction of a disputed claim term, dictionary definitions and the

prosecution history also support Defendant's construction of "primary coil." Several dictionaries support the construction of "primary coil" as being adapted to be coupled to a secondary coil or receiver.² In addition, Vocabulary.com defines secondary coil as "coil such that current is induced in it by passing a current through a primary coil."³ Def. Constr. Br. 13, Ex 1, JA-2373, Doc 31–4. The dictionary definitions support Defendant's proposed construction of "primary coil" because each definition references a "primary coil" as inducing a current in a neighboring circuit/secondary coil.

As stated above, courts are free to consider the prosecution history to "inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution." *Philips*, 415 F.3d at 1317. When distinguishing its '814 Patent from another patent in an Interpartes Patent Review ("IPR") proceeding before the USPTO, Plaintiff made various admissions regarding the invention's disclosure. Plaintiff conceded that "Boveja-814 is an external pulse generator connected to an implanted lead." Def. Constr. Br., Ex 1, JA-2335. In addition, Plaintiff conceded that the '814 Patent touts "specific advantages of external pulse generators coupled to implanted leads over implanted pulse generators." Def. Constr. Br. 14, Ex 1, JA-2341. Moreover, Plaintiff contended that "[a]ccording to the ['814 Patent'], '[t]he external pulse generator of this invention

² "[D]efinitions.net defines "primary coil" as "coil forming the part of an electrical circuit such that changing current induces a current in neighboring circuit" and "current through the primary coil induces current in the secondary coil." (Def. Const. Br. at 13, Ex 4, JA-2436). "Vocabulary.com defines primary coil as "coil forming the part of an electrical circuit such that changing current in it induces a current in a neighboring circuit" and provides the example of a "primary coil to induce a charge in a secondary coil" (JA-2371). Thefreedictionary.com defines "primary coil" as "coil forming the part of an electrical circuit such that changing current in it induces a current in a neighboring circuit; 'current through the primary coil induces current in the secondary coil' (JA-2377). Yourdictionary.com defines "primary coil" as "A coil to which the input voltage is applied in an inductively coupled circuit, especially a transformer" (JA-2385)." (Def. Const. Br. at 13 n.10).

³ "Thefreedictionary.com defines "secondary coil" as "coil such that current is induced in it by passing a current through the primary coil" (JA-2379). Yourdictionary.com defines "secondary" as "Having an induced current that is generated by an inductively coupled primary. Used of a circuit or coil" (JA2392-93 at 2393)." (Def. Const. Br. at 13 n.11).

contains a primary coil and is adapted to be coupled to an implanted lead-receiver for neuromodulation.” Def. Constr. Br., Ex 1, JA-2328. Such admissions support a construction of “primary coil” that recognizes its ability to be implanted to a lead receiver.

V. CONCLUSION

The discussion and analysis presented above represents the Court’s construction of the parties’ disputed term. The Court holds that the correct construction of “primary coil” is “a loop shaped inductor that is adapted to be coupled to an implanted lead receiver.” An appropriate order follows.